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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,014	02/13/2002	John F. O'Connor JR.	3135-22	7136

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Russel H. Marvin, CTO
Torrington Research Company
89 Commerical Blvd.
Torrington, CT 06790

EXAMINER

DUONG, THO V

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 07/29/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,014

Applicant(s)

O'CONNOR, JOHN F.

Examiner

Tho v Duong

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 3743

DETAILED ACTION

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1-12 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-12 of copending Application No. 10/057622. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,3 and 6-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budelman (US 6,244,331) in view of Ballentine (US 3,859,009). Budelman discloses

Art Unit: 3743

(figure 5a) a centrifugal impeller (522) for use in a heat sink (410) having a multiplicity of small upright spaced apart heat dissipation elements (414) in an array defining a multiplicity of small air flow passageways (536) there between with a cavity (418) located centrally there within; the impeller (522) is disposed adjacent to and about the array of the heat dissipating elements and to be driven by an electric motor (524) disposed in the central cavity; the impeller (522) being open radially inwardly for radial communication with the airflow passageways between the heat dissipating elements (414) and at least partially open radially outwardly for the discharge of spent cooling air; the impeller (522) also having a radially extending backplate (534) which is exposed upwardly and which defines an inlet opening for the axial downward flow (538) of cooling air; the impeller having blades (526) forming part of the impeller and serving to effect a right angle turn in air flow direction and to withdraw air radially outwardly from the passageways. Budelman does not disclose that the blades (526) are rearwardly curved air moving blades. Ballentine teaches (figures 1,3 and column 1, lines 3-7) about a centrifugal impeller (31) having a plurality of rearwardly curved air moving blades (1) forming part of the impellers to transform the high velocity heads produced into static pressure wherein the ratio of the radial dimension (W) to the overall radius of the impeller falls in the range 0.27-0.3 (70%-73%), the outlet angle and inlet angle of the backward blades are in the range of 37-50 degrees and 15 to more degrees (or 28 degrees) to achieve a high efficiency performance of the fan. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Ballentine's teaching in the Budelman's to transform the high velocity heads produced into static pressure in order to achieve a high efficiency performance of the fan. Regarding claim 3, Ballentine does not disclose that the ratio of radial dimension W to the

overall radius of the impeller is 0.31. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have the ratio 0.31 in view of Ballalentine's ratio of 0.3 because these two ratios are substantially close enough to make any significant change in the claimed invention performance.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budelman (US 6,244,331) in view of Wang (US 5,988,979). Budelman discloses (figure 5a) a centrifugal impeller (522) for use in a heat sink (410) having a multiplicity of small upright spaced apart heat dissipation elements (414) in an array defining a multiplicity of small air flow passageways (536) there between with a cavity (418) located centrally there within; the impeller (522) is disposed adjacent to and about the array of the heat dissipating elements and to be driven by an electric motor (524) disposed in the central cavity; the impeller (522) being open radially inwardly for radial communication with the airflow passageways between the heat dissipating elements (414) and at least partially open radially outwardly for the discharge of spent cooling air; the impeller (522) also having a radially extending backplate (534) which is exposed upwardly and which defines an inlet opening for the axial downward flow (538) of cooling air; the impeller having blades (526) forming part of the impeller and serving to effect a right angle turn in air flow direction and to withdraw air radially outwardly from the passageways.

Budelman does not disclose that the blades (526) are rearwardly curved air moving blades.

Wang discloses (figure 1 and column 1, and lines 53-62) teaches of using a centrifugal fan with backward curved blades that are angularly displaced from the radial position against the direction of rotation of the blower wheel to move a large volume of air while at the same time displacing such air with a minimum amount of noise. Wang further discloses (figure 1 and column 4, lines

Art Unit: 3743

22-32) that the number of blades is 23, which is an indivisible prime number to avoid undesirable vibration and/or resonance frequency. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Wang's teaching in view of Budelman to move a large volume of air while at the same time displacing such air with a minimum amount of noise and to avoid undesirable vibration and/or resonance frequency.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muszynski (US 5,814,908) discloses a blower wheel with axial inlet for ventilation.

Schwarz et al. (US 6,139,273) discloses a radial flow fan that has a plurality of peripheral blades disposed on a ring plate.

Nishikawa et al. (US 4,362,468) discloses a single curvature fan wheel of a diagonal flow fan.

Zong Tang Lee (GB 2,342,123) discloses a fan that has rearwardly curved air moving blades.

Asbjornson et al. (US 4,808,068) discloses a blower unloading device that has rearwardly curved air moving blades.

Iyer et al. (US 5,707,209) discloses a centrifugal ventilation fan that has an inlet ring having an opening there through and a plurality of generally flat blades.

Botros (US 6,092,988) discloses a centrifugal blower that has a plurality of blades with inlet and outlet angles shown.

Art Unit: 3743

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7764.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.

Tho Duong

July 27, 2003.



Henry Bennett
Supervisory Patent Examiner
Group 3700